



04-06-04

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Attorney Docket No. DH260625 CON2
Client/Matter No. 86480.0005.002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Stephen A. Scaringe
Serial No. 10/613,432
Filed: July 3, 2003
For: ORTHOESTER PROTECTING GROUPS

Group Art Unit: 1646
Examiner: Not yet accorded
Confirmation No.: 5125

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Commissioner for Patents
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2. Form PTO/SB/08A, with copies of 14 non-patent literature references;
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April 5, 2004
Date

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April 5, 2004
Date

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INFORMATION DISCLOSURE STATEMENT
UNDER 37 C.F.R. 1.97

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:


Applicant hereby submits for filing under 37 CFR 1.97 a disclosure statement.

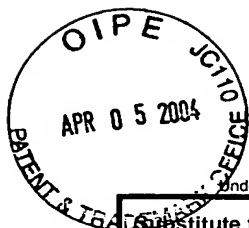
In submitting these references, no representation is made or implied that the references are or are not material to the examination of this application. The patents, publications or other information of which Applicant is presently aware are listed in Form PTO/SB/08A submitted herewith and copies of non-patent literature are attached hereto.

No fee is believed due for this submittal. However, any fee deficiency associated with this submittal may be charged to Deposit Account No. 50-1123.

Respectfully submitted,

April 5, 2004
Date


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Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)				Application Number	10/613,432
				Filing Date	July 3, 2003
				First Named Inventor	Stephen A. Scaringe
				Art Unit	1646
				Examiner Name	Not yet accorded
Sheet	1	of	2	Attorney Docket No.	DH260625 CON2

NON PATENT LITERATURE DOCUMENTS

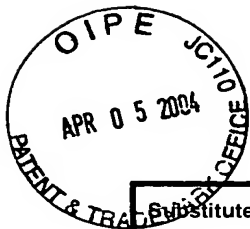
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s) publisher, city and/or country where published	T ²
	1	WOJCIECH T. MARKIEWICZ, "Tetraisopropylidisiloxane-1, 3-diyl, a Group for Simultaneous Protection of 3' - and 5' - Hydroxy Functions of Nucleosides," J. Chem. Research(s), 1979, pp. 24-25	
	2	SERGE L. BEAUCAGE, et al., "Tetrahedron Report Number 309," Tetrahedron, Vol. 48, No. 12, pp. 2223-2311, 1992	
	3	DANIEL C. CAPALDI, et al., "Use of the 1-(2-fluorophenyl)-4-methoxypiperidin-4-yl (Fmp) and Related Protecting Groups in Oligoribonucleotide Synthesis: Stability of Internucleotide Linkages to Aqueous Acid," Nucleic Acids Research, 1994, Vol. 22 No. 12, pp. 2209-2216	
	4	CHRIS CHRISTODOULOU, "Incompatibility of Acid-Labile 2' and 5' Protecting Groups For Solid - Phase Synthesis of Oligoribonucleotides," Tetrahedron Letters, 1986, Vol. 27, No. 13, pp. 1521-1522	
	5	TSUJIAKI HATA, et al. "2-Chloroethyl Orthoformate as a Reagent for Protection in Nucleotides Synthesis," Tetrahedron Letters, No. 51, pp. 4443-4446, 1969	
	6	J. GORDON HILL, et al. "Anhydrous tert - Butyl Hydroperoxide in Toluene: The Preferred Reagent for Applications Requiring Dry TBHP," J. Org. Chem., 1983, 48, pp. 3607-3608	
	7	OSAMU ODAI, et al. "Synthesis and NMR Study of Ribooligonucleotides Forming a Hammerhead-type RNA Enzyme System," Nucleic Acids Research, Vol. 18, No. 20, pp. 5955-5960	
	8	RAO, et al., "Use of the 1-(2-Fluorophenyl)-4-Methoxypiperidin-4-yl (Fmp) Protecting Group in the Solid-Phase Synthesis of Oligo- and Poly-ribonucleotides," J. Chem. Soc. Perkin Trans. 1993, pp. 43-55	
	9	HIMANSHU RASTOGI, et al. "A New 2'-Hydroxyl Protecting Group for the Automated Synthesis of Oligoribonucleotides," Nucleic Acids Research, 1995, Vol. 23, No. 23, pp. 4872-4877	
	10	OSAMU SAKATSUME, et al. "Synthesis and Properties for Non-hammerhead RNA Using 1-(2-Chloroethoxy)- Ethyl Group for the Protection of 2'-Hydroxyl Function," Nucleosides & Nucleotides, 10 (1-3), 1991, pp. 141-153	
	11	MITSUO SEKINE, et al. "Cyclic Orthoester Functions as New Protecting Groups in Nucleosides," J. American Chemical Society, 1983, 105, pp. 2044-2049	

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NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s) publisher, city and/or country where published	T ²
	12	TOSHIKI TANAKA, et al. "Solid Phase Synthesis of Oligoribonucleotides Using 0-Nitrobenzyl Protection of 2'-hydroxyl via a Phosphite Triester Approach," Nucleic Acids Research, Vol. 14, Number 15, 1986, pp. 6265-6279	
	13	WU et al. (1989) "Prevention of Chain of Cleavage in the Chemical Synthesis of 2' - Silylated Oligoribonucleotides," Nucleic Acids Research, Vol. 17, No. 9. 1989, pp.3501-3517	
	14	STEPHEN A. SCARINGE, et al. "Chemical Synthesis of Biologically Active Oligoribonucleotides Using β -Cyanoethyl Protected Ribonucleoside Phosphoramidites," Nucleic Acids Research, Vol. 18, No. 18, pp. 5433-5441	

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